

EIR Feature

Prospects for Russian economic revival

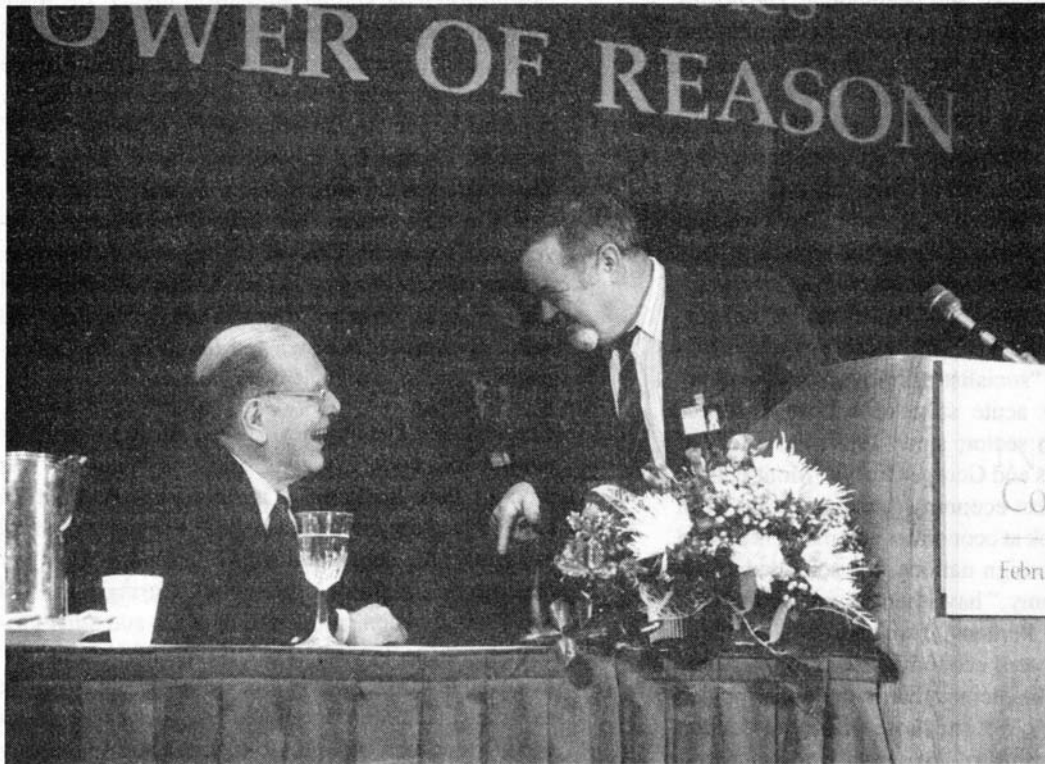
by Lyndon H. LaRouche, Jr.

This "Memorandum to Professor Taras Muranivsky" was presented by representatives of Mr. LaRouche and the Schiller Institute to a special hearing of the lower house of the Russian Parliament, the State Duma, on Feb. 20, convened to discuss measures to prevent the disintegration of Russia's economy. Oral presentations were also made to the parliamentarians by Dr. Jonathan Tennenbaum and Schiller Institute Moscow representative Dr. Taras Muranivsky.

In my estimate, the most crucial facts posed by the present economic situation in Russia, and in eastern Europe and the former Soviet Union generally, are in the following order of descending strategic weight:

1.0 Russia is trapped in the new phase of a worldwide monetary and financial collapse

- 1.1** The present global monetary and financial order has recently entered a new phase of collapse, as marked by such prominently discussed examples as (a) the long slide downward in bond markets, (b) the waves of collapse caused by "derivatives" speculation, such as the Mexico crisis, and (c) other impending, similar crises in nations of South America, Italy, and some former Comecon-member countries in eastern Europe. (Contrary to the hysterical, and demonstrably futile attempts to deny this fact, the current, new round of bankruptcies or near-bankruptcies of both governmental and private institutions is not a mere coincidence of separate and distinct local problems, but, rather, this pattern of increasing local crises is the result of an epidemic: a systemic disorder of the worldwide financial and monetary system as a whole.)
- 1.2** The present phase of the economic crises inside Russia and nearby countries is the result of the interaction between the ongoing, new phase of collapse



Prof. Taras Muranivsky (at podium), Schiller Institute representative in Moscow, greets Lyndon LaRouche at an international conference of the Schiller Institute in Northern Virginia in 1994. On Feb. 20, 1995, Professor Muranivsky submitted this memorandum by LaRouche to a committee hearing of the Russian State Duma, and presented testimony of his own on the science of physical economy.

in the world monetary and financial systems, and the relative exhaustion of Russia's ability to deliver a stream of loot to western financier interests. Thus, the shrinking of the relatively depleted economy of Russia is an important feature of the current downward pressures upon London-centered world financial markets. This has a reciprocal effect: At the same time, the so-called reform-process in Russia is put on its death-bed by the inability of the western side of the financial system to supply sufficient assistance to keep the Russia reform-process alive in its present form.

- 1.3** For related reasons, there exists no possible solution to this crisis, either for Russia or for the world, within the bounds of the previously accepted terms of dominant international economic and financial institutions. The present world system, as derived from the post-1971 form of "floating exchange-rate" international monetary system, and present doctrines of International Monetary Fund (IMF) and related "conditionalities," is doomed to extinction during the near- to medium-term. The present system will either be brought to an end in an orderly way, through governments acting responsibly to put existing central banking and financial systems under state-controlled reorganization in bankruptcy, or through a chain-reaction form of rapid, "thermonuclear" implosion of that speculative financial bubble which the world's finan-

cial system has become.

- 1.4** All workable alternatives to general collapse require governments to assume responsibility for the establishment of new monetary and financial institutions to replace the bankrupt institutions which continue to dominate the world up to this moment.
- 1.5** The special problem of Russia, is that whereas western Europe, North America, Japan, and also the People's Republic of China still have some significant, if shrinking margin for maneuver in the short- to medium-term, Russia is among the growing roster of nations whose margin for existing under the rules of the present IMF conditionalities is virtually exhausted.

2.0 The strategic peculiarities of Russia's present situation

To define the cure for the sickness, we must always address the nature of the disease. To cure the sickness of Russia's economy today, we must identify the causes of this sickness accurately.

Some have said that the sickness of Russia's economy was that it had failed to adapt to the principles of the more successful western market economies. This might remind us of the story of a man who went to a doctor seeking help to overcome a cold. The man took the medicine the doctor

prescribed, and the cold turned into pneumonia. The doctor then told him it was necessary to increase the dosage of the same medicine. The man accepted this advice, and died. However, that is not the end of the story. The dead man's family invited the doctor to the funeral, but the doctor had a conflicting appointment. The doctor had been taking the same medicine, and was attending his own funeral.

That is Russia's experience with the western "physicians' " so-called miracle cures for the economy. That is the former Comecon sector's experience with deadly medicine once advertised as the so-called "Polish Model" of Prof. Jeffrey Sachs and the IMF. By 1989, what Yevgeny Preobrazhensky once named "socialist primitive accumulation" had led to a politically acute state of economic illness throughout the Comecon sector; since 1989, the effect of Mrs. Margaret Thatcher's and George Bush's "Mont Pelerin Society" version of market-economy "medicine" has been nearly fatal. When we look at economies and markets around the world, we see that foreign nations, the so-called magicians of "free trade economy," have themselves become sick from their own medicine. Perhaps, if we knew what kinds of policy the collapsing western economies need to overcome the effects of their own medicine, that is the policy which Russia needs, too. Perhaps, we, and those wizards of London and New York are all victims of the same, worldwide epidemic of collapse of the current, 1971-95-style models of deregulated post-industrial utopias.

Therefore:

- 2.1 To define the causes and remedies for the present crisis in the Russian economy, we must begin by recognizing that no competent analysis of the past decade's collapse of former the Soviet Union and Russia's economy is possible, unless we view the collapse experienced by Russia as a special phase within an ongoing process of collapse of the world economy as a whole.
- 2.2 The crisis of Russia could not be understood, nor competent corrections defined, if we did not recognize a second, added factor: that the worst features of the accelerating, 1989-95 collapse of Russia were the result of the openly stated, hateful intentions of the government of Britain's Prime Minister Margaret Thatcher and the most important accomplice in her anti-european Russia policy, U.S. President George Bush.
- 2.21 During the final three months of 1989, two opposite policies toward the former Comecon sector appeared in western Europe. One, typified by the respective proposals of Deutsche Bank President Alfred Herrhausen and the Schiller Institute, projected east-west cooperation in large-scale infrastructure-development programs in the former Comecon sector; these poli-

cies mirrored the similar thinking of France's Foreign Minister Gabriel Hanotaux, Russia's Count Sergei Witte, and others, during the 1890s. During those same months, this first type of policy was violently opposed by the British monarchy, on "geopolitical" grounds. During the closing months of 1989, Mrs. Thatcher's government issued the most violent statements, warning against any large-scale economic development projects based on cooperation between the former Comecon states and Germany. President George Bush supported Mrs. Thatcher in this and similar policies of her own and John Major's governments.

- 2.22 The Thatcher-Bush policy toward the former Comecon sector's economy, was "slash and burn." It was a policy best described as a theorem in geopolitical algebra premised upon those same axioms of Halford Mackinder on which the 1945 "Morgenthau Plan" for occupied Germany was premised. During late 1989 and 1990, London, supported by Bush and other promonetarist forces inside the U.S.A. and U.N.O., introduced the IMF/Sachs "shock therapy" policy, first to Poland, and then throughout the former Comecon sector, forcing a large-scale collapse within existing agro-industrial production capacity.
- 2.23 "Shock therapy" has been accompanied by a program of intensive "capitalist primitive accumulation": Vast amounts and varieties of the former assets of Comecon member-states have been dumped on the world market at ridiculously low prices, providing a small margin of foreign exchange into the bank accounts of Russian and other speculators engaged in selling valuable assets of Poland, Russia, and Ukraine on world markets. The motive for this British looting policy is, not only subsidizing a sagging western economy with this margin of colonialist-style looting of the former Comecon sector, but also "geopolitics": Weaken the economy of the eurasian "heartland," and strengthen relatively the margin of future world hegemony for the London-led oligarchical interests based upon the so-called "rim."
- 2.3 Since mid-1994, Russia's economic opportunities have been improved potentially by U.S. President Clinton's July 1994 actions at the Naples G-8 conference, and in Bonn and Berlin, establishing a new "U.S. special relationship" with Germany, ending the "special relationship" with Britain. The U.S. President's actions show that the principal function of the new U.S. "special relationship" with Germany is to provide a life-line of economic cooperation with european states to the east of Berlin. Although these are beneficial changes in direction, Russia so far has

gained from these policy-changes much more in possibilities than in actual substance.

2.31 So far, the substance of these changes is chiefly the following. President Clinton has broken the United States' ties to the 1989-92 geopolitical policies established under Mrs. Thatcher and Mr. Bush; that is the key to the savage attacks on the Clinton presidency by the British monarchy and its assets, such as George Bush, the fascistic neo-conservatives, and the leading news media inside the U.S.A. Over murderous British objections, Mr. Clinton and German Chancellor Helmut Kohl's government have taken important steps toward pushing forward some of the elements of Eurasian infrastructure cooperation proposed by the Schiller Institute's 1990 "Productive Triangle" draft and the later "Delors Plan." Although the latter are still limited initiatives, they are important and promising parts of any future recovery-program instituted within the former Comecon region.

2.32 The new "special relationship" between the U.S.A. and Germany is a good change for Poland, Russia, Ukraine, and so forth; it gives hope that the geopolitical looting begun under Thatcher and Bush might end. The proposed railway-corridor and other development projects in which Russia will participate are part of any economic recovery in Russia and adjoining nations. However, although these developments are necessary steps in the direction of an economic recovery, they do not, by themselves, reach the threshold at which a genuine economic recovery would begin. These changes in U.S.A.-Germany policy toward eastern Europe, although beneficial directions in policymaking, do not yet address the crucial task upon which a general reversal of the collapse-process depends absolutely: the long-overdue reorganization of the present, intrinsically bankrupt, globally hegemonic monetary and financial order.

3.0 Plans may vary; correct principles are constant

As one approaches the duties of shaping of economic policy under conditions of crisis, it is indispensable to distinguish between sound principles, on the one side, and, on the other side, the variety of policies which would each and all be consistent with those principles. One must understand clearly the distinction between sound principles and the alternative choices of good policies which may be based upon those principles. The most useful illustration of this distinction is found in the difference between axioms and theorems in a formal, deductive geometry.

In any schoolbook geometry, we are given, on the one

side, a set of axioms and postulates, and, on the other side, the open-ended list of numerous theorems which may be shown to be consistent with that set of axioms and postulates. In physical science generally, or in economic science in particular, we should employ the word "principles," to take the place which a set of axioms and postulates occupies in a formalist geometry. The particular policies, or "economic 'blueprints,'" which can be shown to be not-inconsistent with specified principles, take the place of the provable theorems of a specific choice of formalist geometry.

(It is relevant to note the following, rather little-known fact of scientific method. In Plato's work, the term identifying any particular, constant set of axioms and postulates of a formal system, is termed an *hypothesis*, as the term is also used, for example, by Bernhard Riemann in his June 1854 habilitation dissertation: "*Über die Hypothesen, welche der Geometrie zu Grunde liegen*," and his "*Versuch einer Lehre von den Grundbegriffen der Mathematik und der Physik als Grundlage für die Naturerklärung*," **Gesammelte Mathematische Werke**, H. Weber, ed. [Stuttgart: Verlag B.G. Teubner, 1902]. See reprint editions of this: [New York: Dover Publications, Inc., 1953], [Liechtenstein: Sändig Reprint Verlag Hans R. Wohlend], pp. 272-87 and 521-25. This is the only etymologically and historically correct usage of "hypothesis," contrary to the use of this same word by the aristoteleans, empiricists, and their followers. A new *hypothesis*, in Plato or Riemann, signifies an improved set of axioms and postulates, introduced to bring mathematics into conformity with physical reality.)

In economics, as in physical science in general, whenever we are confronted with a failed experiment, we are faced with two types of possibilities. The first possibility is that, in the design or the conduct of the experiment, some established principle of scientific method was violated; the second possibility is, that, in this case, we have encountered a circumstance in which there has occurred a failure of what have been, until now, generally accepted principles of scientific method. The present world economic crisis is a case of the second type; nature is showing us that the choice of generally accepted principles of economics, as taught currently in every leading university in the world, has been a potentially fatal error.

In this circumstance, the most foolish thing any government could do, would be to consult leading professional economists, as if to ask them, "What must our government do to correct our mistakes?" Whatever advice the doctrinaire economists—the "free traders," the "systems analysis" specialists, and so on—give would be assuredly another disaster for the government duped into accepting advice from such a source. The result would be, that tomorrow we would experience an economic disaster even worse than the crisis the world is suffering today.

In this circumstance, the correct, alternative question an intelligent government must ask, is: "What is the reason for

the incompetence of all the world's generally accepted economics textbooks?" The only significant mistake the government has committed is to listen to the advice of those economists who are generally accepted as expert. That is the mistake not to be repeated.

If the principles (the axioms and postulates) of a geometry are good, any theorem consistent with those principles will be sound. The question to ask, is not "Do we have a good economic policy?" We should ask, instead, "Do we have a policy which is consistent with sound principles?"

In this circumstance, do not ask merely for "economic 'blueprints' "; seek to discover the scientific principles which must replace the generally accepted teachings of the economics textbooks and international monetary and central banking institutions. To illustrate the point: Presume you have been delivered a "blueprint" for a policy dedicated to economic recovery; by what set of principles would you judge whether that "blueprint" should be considered sound, or incompetent? Therefore, before asking for "blueprints," settle the issue of principles. Once the right new principles have been chosen, any choice of policy consistent with those principles will be a sound policy.

Once sound principles have been adopted, policies may vary on condition they are consistent with those principles; sound principles must not vary until science had discovered a better set of principles.

Fortunately, the required new choice of principles is readily discerned from a brief examination of the changes in the human condition introduced by modern european history.

4.0 The proven principles of economy

Until certain fundamental changes in principles of statecraft first introduced to practice during the fifteenth century, 95%, or more, of the population of every society, of every cultural strain, was condemned to live in a condition of serfdom, slavery, or even worse. The accompanying charts and diagrams (Figure 1, Table 1 and Figure 2) illustrate the evidence which summarizes the factual basis for this argument. Those changes in the principles of the modern nation-state first introduced in fifteenth-century Europe, and later spread throughout virtually all of the planet, define the difference between modern civilization and all human existence of earlier times.

Throughout the past period of approximately 10,000 years, prior to modern society, in all human existence prior to Europe's fifteenth century, the strata of society living above the level of relatively traditional forms of rural toil did not exceed 5% of the total population. This contrasts with underdeveloped economies today, in which as high as 80% of the labor-force is committed to labor-intensive forms of rural toil. Of the more privileged 5% of persons implicitly belonging to the available labor-force, the majority were typified by clerks, priests, military professionals, and mer-

chants. This majority was usually a stratum of lackeys, whose principal function was to assist a relatively tiny ruling class in the administration of society as a whole. In known societies, the ruling class usually existed in the form of a collection of privileged families. Those families, who ruled capriciously over society with the insolence attributable to the mythical gods of Olympus, constituted an oligarchy.

This characteristic model of ancient barbarism and feudalism became famous, through the negotiations between the Persian Empire and King Philip of Macedon, as the *oligarchical model*, as typified by the traditions of ancient Babylon and the Canaanite maritime-financier power of Tyre. Lycurgan Sparta's slave-society belongs to the type of the same oligarchical model.

This oligarchical model of society persisted as the dominant form on this planet through and beyond the Roman empires, into the fifteenth century of european history. During the recent five centuries, that traditional oligarchy of barbarism and feudalism, has adapted itself, as a dominating parasite, to the institutions of the modern nation-state and economy. During the course of the recent four centuries, the center of this oligarchy has been shifted, from the Tyre-like, Mediterranean maritime-financier power of eleventh-through sixteenth-century Venice, to relocate the world's center of oligarchical power in the aggregated families of an international, royal, aristocratic and financier-nobility, all orbiting, during the twentieth century, around the British and Dutch monarchies. Through the influence over ideas, monetary institutions, and international finance, which it has gained during successive wars of the recent centuries, this oligarchy penetrates its influence powerfully into the affairs of most nations, and dominates the world's affairs today.

Nonetheless, despite that continued existence of internationally powerful oligarchical institutions, fundamental changes in the form of society were introduced during Europe's mid-fifteenth century. A study of those changes, and their results, is the key to adducing the kinds of principles which must define economic policy-shaping for us in this present crisis.

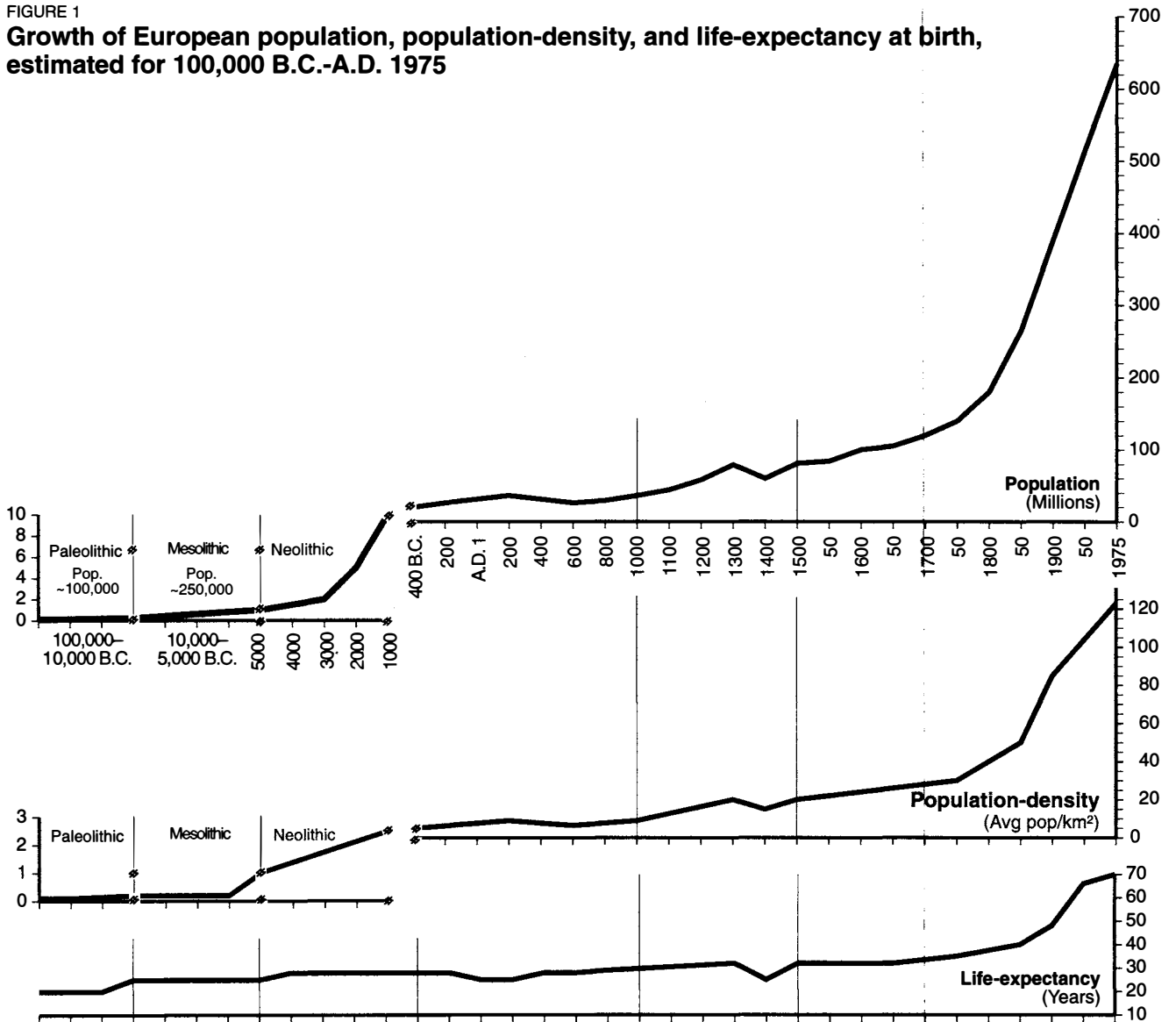
The principal such changes are the following:

4.1 The potential relative population-density of mankind has been increased at hyperbolically rising rates

Were mankind a mere beast, a type of higher ape, as Britain's Royal Consort, Prince Philip, has repeatedly insisted that he himself is, then mankind would exhibit the potential relative population-density of a higher ape: never more than several millions living individuals at any time during the recent 2 millions years of the Cenozoic. We see that the human population had reached up to levels of several hundred millions indi-

FIGURE 1

Growth of European population, population-density, and life-expectancy at birth, estimated for 100,000 B.C.-A.D. 1975



All charts are based on standard estimates compiled by existing schools of demography. None claim any more precision than the indicative; however, the scaling flattens out what might otherwise be locally, or even temporally, significant variation, reducing all thereby to the set of changes which is significant, independent of the quality of estimates and scaling of the graphs. Sources for Figure 1: For population and population-density, Colin McEvedy and Richard Jones, *Atlas of World Population History* (1978); for life-expectancy, various studies in historical demography, including Gy. Acsádi and J. Nemeskéri, *History of Human Life Span and Mortality* (1970); Peter R. Cox, *Demography* (1976); Jacques Dupâquier, *La population rurale du Bassin parisien à l'époque de Louis XIV* (1979); Jacques Dupâquier, *Introduction à la démographie historique* (1974); D.V. Glass and D.E.C. Eversley, eds., *Population in History* (1965); T.H. Hollingsworth, *Historical Demography* (1965); Roger Mols, S.J., *Introduction à la démographie historique des villes d'Europe du XIVe au XVIIIe siècle*, (1955); Henry S. Shryock et al., *The Methods and Materials of Demography* (1976); E.A. Wrigley, *Population and History* (1967); E.A. Wrigley and R.S. Schofield, *The Population History of England, 1541-1871* (1981). Note breaks and changes in scales.

viduals during the thirteenth century. Since the middle of the fourteenth century, the human population has risen at hyperbolically rising curve of increased rates of population-densities. So, during the recent five centuries, the world's population has been increased

from about 300 millions persons, to more than 5 billions presently, with a potential for more than 25 billions living prosperously, provided the technologies developed by about the end of the 1960s had been fully realized.

TABLE 1

Development of human population

	Life expectancy at birth (years)	Population density (per km ²)	Comments	World population (millions)
Primate Comparison				
Gorilla		1/km ²		.07
Chimpanzee		3-4/km ²		1+
Man				
Australopithecines B.C. 4,000,000-1,000,000	14-15	1/ 10 km ²	68% die by age 14	.07-1
Homo Erectus B.C. 900,000-400,000	14-15			1.7
Paleolithic (hunter-gatherers) B.C. 100,000-15,000	18-20+	1/ 10 km ²	55% die by age 14; average age 23	
Mesolithic (proto-agricultural) B.C. 15,000-5,000	20-27			4
Neolithic, B.C. 10,000-3,000	25	1/km ²	"Agricultural revolution"	10
Bronze Age B.C. 3,000-1,000	28	10/km ²	50% die by age 14 Village dry-farming, Baluchistan, 5,000 B.C.: 9.61/km ² Development of cities: Sumer, 2000 B.C.: 19.16/km ² Early Bronze Age: Aegean, 3,000 B.C.: 7.5-13.8/km ² Late Bronze Age: Aegean, 1,000 B.C.: 12.4-31.3/km ² Shang Dynasty China, 1000 B.C.: 5/km ²	50
Iron Age, B.C. 1,000-	28			50
Mediterranean Classical Period B.C. 500-A.D. 500	25-28	15+/km ²	Classical Greece, Peloponnese: 35/km ² Roman Empire: Greece: 11/km ² Italy: 24/km ² Asia: 30/km ² Egypt: 179/km ² * Han Dynasty China, B.C. 200-A.D. 200: 19.27 Shanxi: 28/km ² Shaanxi: 24/km ² Henan: 97/km ² * Shandong: 118/km ² * * Irrigated river-valley intensive agriculture	100-190
European Medieval Period A.D. 800-1300	30+	20+/km ²	40% die by age 14 Italy, 1200: 24/km ² Italy, 1340: 34/km ² Tuscany, 1340: 85/km ² Brabant, 1374: 35/km ²	220-360
Europe, 17th Century	32-36		Italy, 1650: 37/km ² France, 1650: 38/km ² Belgium, 1650: 50/km ²	545
Europe, 18th Century	34-38	30+/km ²	"Industrial Revolution" Italy, 1750: 50/km ² France, 1750: 44/km ² Belgium, 1750: 108/km ²	720
Massachusetts, 1840 United Kingdom, 1861 Guatemala, 1893 European Russia, 1896 Czechoslovakia, 1900 Japan, 1899 United States, 1900 Sweden, 1903 France, 1946 India, 1950 Sweden, 1960	24 32 41	41 43 40 44 48 53 62 73	90+/km ² Life expectancies: "Industrialized," right; "Non-industrialized," left	1,200 2,500
1970 United States West Germany Japan China India Belgium	59 48	71 70 73 180/km ² 183/km ² 333/km ²	1975 26/km ² 248/km ² 297/km ² 180/km ² 183/km ² 333/km ²	3,900

4.2 The quality of household life has improved similarly

The most critical demographic parameter of development is the number of infants and children who survive to child-bearing age and beyond (e.g., above 14 years of age). New discipline supporting improvements in sanitation and nutrition, introduced during Europe's fifteenth century and beyond, have been the greatest single factor of change permitting the improvement of the standard of family life in the industrially developed, and other regions of the world during the interval 1440-1963. (The reason for the date 1963 will be indicated below.) It is that improvement in longevity, combined with technological progress of production of infrastructure, agriculture, manufacturing, and other industry (such as construction) which has been the principal cause for the absolute superiority of rates of increase of *potential* relative population-density over all pre-1440 forms of society in every part of the world.

4.3 The change in social division of labor

The percentile of the labor-force required to supply production of the necessary food consumption of the whole society has declined from over 90% of the available total labor-force, toward 2-5%. This has been made possible through improvements in basic economic infrastructure and science and technology. This has required the introduction of compulsory universal secondary education, and increase of higher education enrollments, increasing thus the percentile of the population aged 5-25 enrolled in education, as distinct from the labor-force. The percentile of the labor-force required for development and maintenance of basic economic infrastructure (including education, health-delivery facilities, and science and technology) has increased, and must continue to increase. The capital-intensity of employment has increased, and must continue to do so. The power-intensity per capita of labor-force and per square kilometer, increases, and must increase. The usable water, in cubic meters per year, per capita, per household, and

per square kilometer, increases, and must increase. In combined physical product, and also in the exceptional services of education, health-care, and science and technology, the physical content of the per-capita and per-household market-basket of consumption increases, and must increase.

4.4 Measuring physical economic growth

4.41 The foregoing measurements are made in terms of units of demography of family units, in units of water, power, ton-mile-hours of transportation: all per capita, per household, and per square kilometer. Market-baskets of households are measured in these demographic terms.

4.42 These measurements lead to a general measurement to be made: a comparison of the variable, necessarily rising cost (as measured in lists and quantities of items of consumption) of reproducing the entire society, as compared with the society's total production of those items accounted as elements of necessary costs. This represents a social-reproductive cycle. We have thus two primary terms. First, the necessary social cost, measured in terms of standard market-baskets, of reproducing a labor-force and productive capacities of a quality needed to maintain a given level of productivity per capita, per household, and per square kilometer. Second, the output of that society, measured in those same terms. Either there must be a gain of output over input, or the society will degrade in the direction of collapse. Designate input as corresponding to "energy of the system," and the margin of gain of output over input, as relative "free energy." The resulting measurement is *rate of change of the ratio of "free energy," so defined, to "energy of the system," also so defined.*

That latter measurement, constructed in the manner we have just reviewed, above, is the "rule of thumb" measurement required for discussing principles of economy.

4.5 'Not-entropy' in the economic process

Not the exact amount, but the range of relative potential

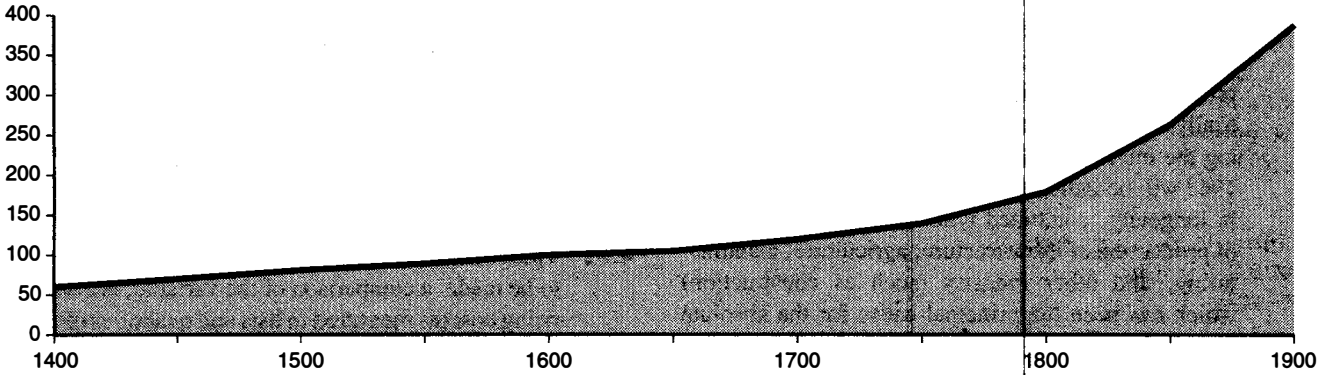
Sources for Table 1: For world population and population densities, McEvedy and Jones, *op. cit.*, and Colin Clark, *Population Growth and Land Use* (1967). For primate comparison, estimates presented by George B. Schaller, *The Year of the Gorilla* (1965). For life-expectancies: for prehistoric man through the European medieval period, Acsádi and Nemeskéri, *op. cit.*, and Kenneth M. Weiss, *Demographic Models for Anthropology* (1973); for Bronze and Iron Ages, additionally J. Lawrence Angel, "The Length of Life in Ancient Greece," *Journal of Gerontology*, Vol. 2, Nos. 1-4 (1947); for classical period, additionally J.C. Russell, "Late Ancient and Medieval Populations," *Transactions of the American Philosophical Society*, New Series, Vol. 48, No. 3 (1958); for 17th and 18th centuries, Wrigley and Schofield, *op. cit.*, and Glass and Eversley, *op. cit.*; for 19th and 20th centuries, Weiss, *op. cit.*, and T.E. Smith, "The Control of Mortality," *Annals of the American Academy of Political and Social Science*, Vol. 369 (Jan. 1967). For area studies: for Mesopotamia, Robert J. Braidwood and Charles A. Reed, "The Achievement and Early Consequences of Food-Production," in *Cold Spring Harbor Symposia on Quantitative Biology, Volume XXII* (1957); for the Aegean, Colin Renfrew, *The Emergence of Civilization: The Cyclades and the Aegean in the Third Millennium B.C.* (1972); for the Peloponnese, Clark, *op. cit.*; for the Roman Empire, Karl A. Wittfogel, "The Hydraulic Civilizations," in *Man's Role in Changing the Face of the Earth*, ed. by William L. Thomas, Jr. (1956); for China, John D. Durand, "The Population Statistics of China, A.D. 2-1953," *Population Statistics*, Vol. 13, No. 3 (March 1960).

FIGURE 2

**Post-Renaissance population vs. predecessor civilizations:
continued growth vs. cyclical collapse**

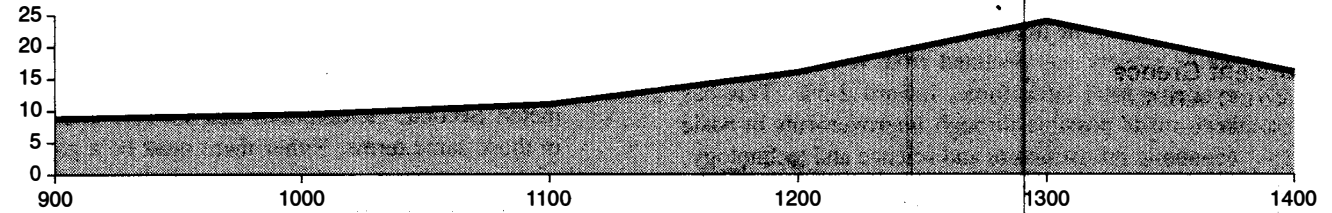
Modern Europe

A.D. 1400-1900
(millions)



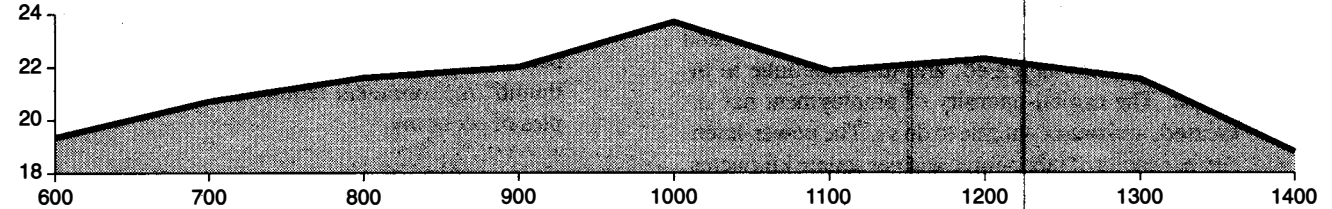
Charlemagne's Europe

A.D. 900-1400
(millions)



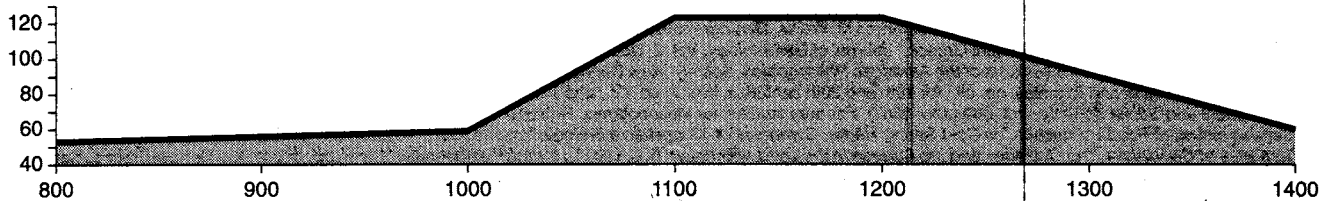
Caliphate (excludes Spain)

A.D. 600-1400
(millions)



China: T'ang-Sung-Yuän dynasties

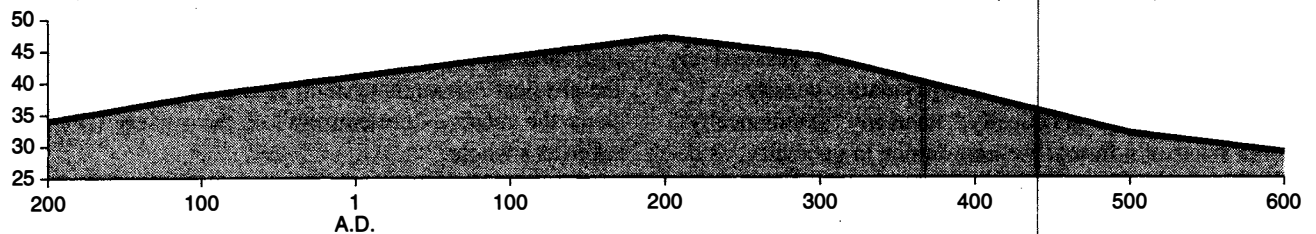
A.D. 800-1400
(millions)



Roman world

200 B.C.-A.D. 600

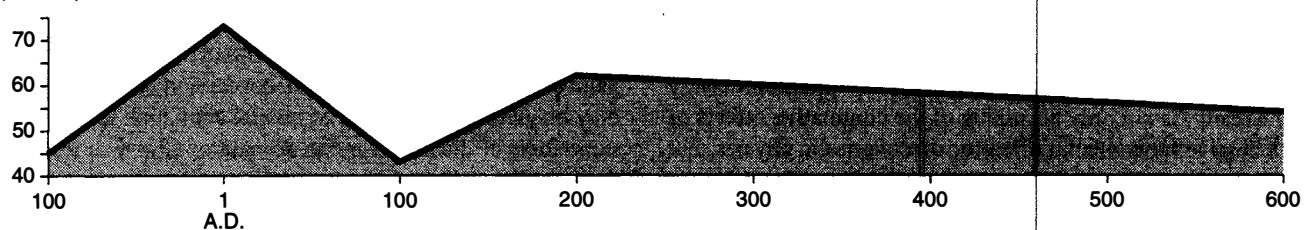
(millions)



China: Han-Sui dynasties

100 B.C.-A.D. 600

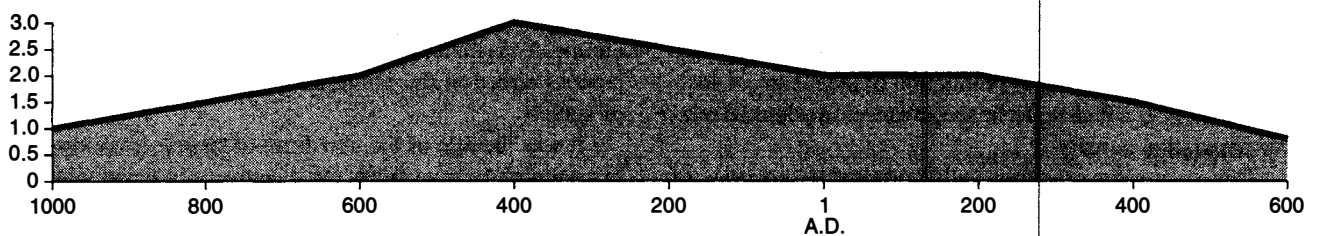
(millions)



Ancient Greece

1000 B.C.-A.D. 600

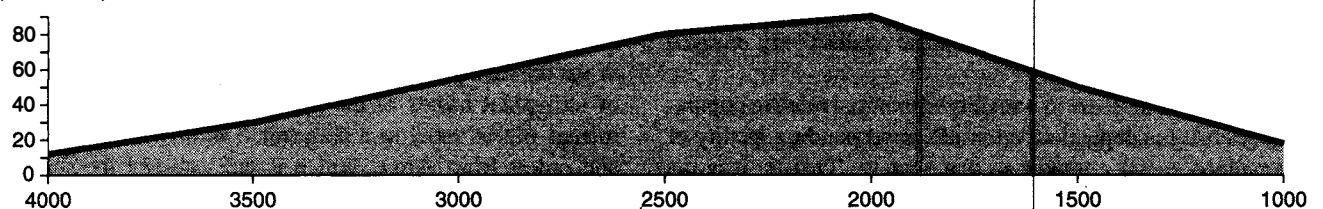
(millions)



Mesopotamia: Baghdad region

4000-1000 B.C.

(thousands)



Sources: Where not otherwise noted, graphs are drawn from estimates and statistics as compiled by McEvedy and Jones *op. cit.* For Mesopotamia: Robert McC. Adams, *Land Behind Baghdad: A History of Settlement on the Diyala Plains* (1965). For China, Han-Sui dynasties: Clark, *op. cit.*, Durand, *op. cit.*, and K.W. Taylor, "Some Aspects of Population History," *Canadian Journal of Economics and Political Science*, Vol. 16, No. 3 (Aug. 1950). For Rome: Kenneth Kronberg, "How the Romans Nearly Destroyed Civilization," in *EIR Special Report: The Genocidal Roots of Bush's 'New World Order'* (May 1992). For China, T'ang-Sung-Yuán dynasties: Durand, *op. cit.*

The cycles of population growth and decline in various civilizations show that the impulse for technological development to support greater human populations, while present in pre-modern societies, could not be sustained, as it was in Europe following the breakthroughs of the Council of Florence. Note the various scales for population and time periods.

population-density of an animal species is fixed, as if genetically. The known features of the demographic history of mankind, as compared with the data for higher apes, indicates in rough form, but clearly enough, the point which might be proven otherwise in a more rigorous way (see Table 1). The archeologically and otherwise known demographic history of the human species simulates a succession of successively higher animal species, a series of successively higher ranges of potential relative population density.

Rather than say "genetically," let us say "axiomatically," in the sense of a formal theorem-lattice in geometry, as defined by an underlying set of axioms and postulates. It can be shown, as I have outlined this proof in several published locations, that the series of increases in range of human potential relative population-density correspond to a series of changes of hypothesis, which, from the standpoint of formal theorem-lattices, appear as a succession of changes of axioms.

This succession of combined pre-historical and historical transformations in the potential relative population-density of society, is not only an analog of the cumulative effects of successive fundamental scientific discoveries in physics, but it is a series of that same type; it is a series ordered by the same principle as original, valid, axiomatic-revolutionary changes of principle in physical science, and analogous forms of discovery in the Classical forms of fine arts.

It is the increase of mankind's increase of power over nature, as expressed in terms of per capita (of available labor-force), per household, and per square kilometer of area in use, resulting from technological revolutions, chiefly in production and organization of production of the means of society's existence, which underlie the advances in potential relative population-density.

This power for effecting valid, original discoveries of higher principle, for effecting valid axiomatic-revolutionary discoveries, is a peculiarity not of the society, but of the individual person within the society. Each discovery occurs solely within the sovereign mental processes of the individual discoverer; each such discovery, when effected by an individual, can be communicated to others only by prompting the hearer to replicate the experience of discovery enjoyed by the first discoverer.

Thus, the increase of a society's potential relative population-density is dependent upon the corresponding quality of organized social relations in that society. That is, it is the fostering of the individual's potential for generating and recreating such individual mental acts of axiomatic-revolutionary forms of valid discovery, by the society, which governs the possibility of significant improvement in the potential relative population-density of that society. This is a quality, and a social form of relations among individuals, which is manifestly not possible within any known species but mankind.

That said in summary of this point, examine the source

of a true rate of profit, as definable in physical-economic terms. Rate of profit for the society (e.g., economy) as a whole signifies the same thing, in first approximation, as per-capita *rate of free energy to energy of the system*. To address the point presently under consideration, let us limit our attention to the relationship between that variable general ratio and qualitative changes in the range of potential relative population-density. In this case, this ratio is the rate of profit of the physical-economic system. In that setting, it also represents the relative "not-entropy" of the society (economy) taken as a whole.

The source of this "not-entropy" of society is the impact of the generation, regeneration, and assimilation of an accumulated, growing mass of known axiomatic-revolutionary discoveries over hundreds and thousands of years to date. These discoveries are of the form which B. Riemann addresses categorically in his referenced habilitation dissertation. These are not limited to the equivalent of relatively valid discoveries of scientific principle; rather, the general case of valid axiomatic-revolutionary discoveries in physical science may be identified as a type of mental act which includes the same form of discovery in the domain of Classical forms of the fine arts.

Against the background of those considerations, look at the fifteenth-century revolution in statecraft introduced to France under Louis XI, the beginning of the modern nation-state (commonwealth). This event, together with other impacts of the A.D. 1439-40 ecumenical Council of Florence, marks the singularity, the point of separation of modern European civilization from feudalism, the beginning of a process aimed at the elimination of the oligarchical model of society.

It was the role of the new form of state (commonwealth) in assuming responsibility for direction and development of general public education, of basic economic infrastructure, and fostering of the participation of the whole population in the scientific, technological, and related innovations in individual and social practices, which is the distinction which marks the absolute increase in power of modern European culture, compared to all preceding existence of mankind. The directing action of the state to foster the activation of the creative potentials of the relatively maximum number of individual minds of the people, rather than leaving the mental life of most to a stagnant combination of tradition and orders from above, which is the secret of the superior power of modern European culture.

4.6 Commonwealth forms of money and credit

4.6.1 Here, we have already indicated that all of the proper measurements in economy are based on non-money parameters: per-capita market baskets of both household and productive consumption and output, per capita of the labor force, per household, and per square



Representatives of the American System of political-economy, left to right: Germany's Friedrich List, Russia's Sergei Witte, and America's Henry Carey.

kilometer of area used. All the essential measurements to be made should be made *first* in these terms, without regard for prices. This was the traditional approach of the commonwealth society from the beginning. This approach came to be known, during the sixteenth into the early nineteenth century as "cameralism." The Constitution of the United States under the first President was a "cameralist" constitution, whose implicitly prescribed economic system was identified officially by that administration as "the American System of political-economy," a system represented later by such economists as statesmen as Friedrich List, Henry C. Carey, and Russia's Sergei Witte. That "American System of political-economy," so defined, is the standard of reference for contrast to the presently collapsing worldwide system, the British system of "free trade," of Adam Smith and his sundry varieties of followers.

4.62 The monetary system prescribed by the combined authority of the U.S. Federal Constitution, and the administrations of President George Washington (1789-97) took its historical precedent in the successful policy of issuance of paper currency by the pre-1689 Massachusetts Bay Colony. This highly successful innovation by that semi-autonomous English colony in North America used fiat money, created by the government as credit solely for circulation within the economy, to foster successfully the relative maximum exchange of goods, and thus the greater fostering of the use of available productive capacity. Money should come into existence solely as a form of credit

(non-interest-bearing government fully negotiable notes) issued by the government as credit to worthy enterprises within the nation. Issued in this manner, and under governmental protection respecting their circulation in domestic and foreign commerce, such notes are issued at a pace in keeping with the amount of increased production of wealth their issuance fosters; they are inherently non-inflationary if used intelligently in this way.

4.63 In contrast, the British system, a model oligarchical system derived from venetian (e.g., "Lombard") private banking oligopolies, presumes the implicit existence of some "original hoard of money" in private hands, and seeks to maintain a private monopoly over national and world currency and credit through oligarchical, private monopolies over central banking. In the aftermath of the 1789 establishment of the successful, and influential American System of political-economy, it became more or less conventional to refer to a difference between the "national banking" principles of Hamilton et al., and the "central banking" monopolies of the oligarchical financial interests. The U.S. Federal Reserve System, as established in 1913, is an oligarchical central banking system, existing literally in direct violation of the explicit language of the U.S. Federal Constitution, existing because the anglophile oligarchy within the U.S. had seized power with the 1901 assassination of U.S. President William McKinley.

4.64 It is the worldwide system of central banking which

is now threatened either with government-directed reorganization in bankruptcy, or, the only alternative, near- to middle-term disintegration of the monetary and financial system through a sudden “thermonuclear” chain-reaction implosion of “reversed financial leverage.”

4.7 The dual character of modern economy

The venetian oligarchy’s initial response to the anti-oligarchical Council of Florence and the launching of the commonwealth by Louis XI’s France, was to attempt, at first, simply to crush the unwanted revolution, and, from the time of the anti-Venice League of Cambrai (1508-10), to set the allies of the League against one another by such means as Venice’s creation of the Protestant Reformation, and then acting to place itself also in the camp of the Counter-Reformation. (As British Prince of Wales Albert Edward [King Edward VII] acted to set France, Germany, and Russia against one another, from 1898 onward, to remove the threat that the principal nations of the continent of Eurasia might be united in economic development, contrary to the perceived “geopolitical” interests of the neo-venetian British Empire.) From 1582, there was a radical shift in the policy of the majority faction of Venice’s ruling oligarchy: From then on, Paolo Sarpi led in establishing a new policy of creating a venetian-style maritime and financial power in the Protestant north of Europe, based upon Venice’s seizure of control over the monarchies of the Netherlands and England.

Since 1582, the entire history of european civilization has been characterized by a continued conflict between the heritage of the commonwealth tradition of Louis XI et al. and the Venice-rallied, oligarchical opponents of the commonwealth tradition. The distinctive feature which Sarpi’s faction introduced was Sarpi’s attempt to check the forces behind the new, modern form of nation-state, by seizing controlling influence over governments, Classical fine arts, and science from the inside of those institutions, rather than relying upon crudely reactionary methods to attempt to crush the new forms of government and science from without. Venetian oligarchical emphasis on corruption of its enemy from within his own institutions, became the prevailing day-to-day characteristic of the oligarchical side of this conflict.

For example, the transformation of Tudor England’s London into the capital of an eighteenth-century founding of a British Empire, began with Paolo Sarpi’s personal role in establishing the government of James I, and continued through the reign of the Venetian Party’s imported William of Orange, establishing the preconditions on which the 1714 creation of the United Kingdom was premised.

In science, Paolo Sarpi’s creatures in founding empiricism included, most notably, the anti-Kepler ideologues Francis Bacon, Robert Fludd, and Galileo Galilei. During the early eighteenth century, a Venice intelligence chieftain,

Antonio Conti, operated in Italy, France, England, and Germany (i.e., Prussia) through what became known to scholars as Conti’s salon. Conti’s salon, continuing operations after his death in 1749, coordinated such figures as Abbot Guido Grandi at Pisa, Montesquieu, Voltaire, Giovanni Casanova, the Physiocrats, and Cagliostro in France, King Frederick the Great’s lackeys Francesco Algarotti, Maupertuis, and Euler in Berlin, and the influence of Giammaria Ortes in London.

This network of Conti’s salon was built around a Europe-wide project for seeking to destroy the influence of Gottfried Leibniz. It built an anti-Leibniz “Enlightenment” around Paolo Sarpi’s empiricist methods. This used the figures of Sarpi’s personal tool, Galileo, France’s René Descartes, and the image of “the English Galileo,” Isaac Newton, as the chosen anti-Kepler, counter-Leibniz symbols of the Venice-created “Eighteenth-Century Enlightenment.” This form of the Eighteenth-Century Enlightenment, as shaped by Conti’s salon, gave the world the doctrines associated with such figures of modern radical empiricism and positivism as David Hume, François Quesnay, Adam Smith, the French encyclopedists, Jeremy Bentham, Immanuel Kant, G.W.F. Hegel, Karl Savigny, Pierre LaPlace, and the nineteenth-century French, Swiss, and Austrian positivist movements. In Britain, the influence of Giammaria Ortes, in particular, gave us the economics of Smith, the social theory of Bentham, the population theory of Malthus, and so on.

The venetian influentials from Sarpi through the death of Ortes in 1790, ensured that every leading British institution of politics, philosophy, science, art, and social theory was politicized according their venetian design. What came to be a generally accepted empiricist or positivist view of history, of “human nature” and scientific method, was designed by these venetians, over these two centuries, as an attempt to control the unconscious behavior of entire populations of Europe.

In effect, these venetians descended upon various nations of Europe like “body-snatchers from outer space,” taking over the minds of selected key persons and salons which, in turn, became leading influences upon the educated and other strata of society around them. What they did, literally, to this effect, was to implant a set of axiomatic assumptions. These were the axioms of, first, the empiricist and, later, the radical-empiricist, or positivist world-outlook. Whoever adopted those axioms was implicitly compelled to choose, as theorems of their belief, those kinds of propositions which were consistent with the empiricist axioms.

As part of this, empiricism was injected with what might be described as an “immunizing factor” of self-protection against the future influence of socratic reason. This built-in, self-protecting assumption was the dogmatic assertion that the axioms of empiricist theorems (hypothesis) do not exist. This is illustrated by the famous slogan adopted by Isaac Newton: *Hypothesis non fingo*. Empiricism asserts that its

axioms are not willfully artficed axioms, but only the manifestly self-evident principles of sense-perception and individual human nature. Some might conclude from this, that empiricism and positivism are vicious forms of insanity, delusional states; whatever the outcome of that view, the fact remains that this we have described, is the character of the empiricism introduced to England by the venetians of Paolo Sarpi and Antonio Conti's salons.

The cleverness embodied in this venetian tactic is, that any person who blindly accepts empiricist axioms as self-evident, will tend to behave in a way which is convenient for the oligarchical strategic interest. The effect of Russia's acceptance of the radical-empiricist doctrines of free-trade economics as the basis for the policy of reform, is an example of how this venetian method of manipulation works still today.

The rise of the British monarchy to global imperial power, through chiefly the eurasian wars of the late-eighteenth and nineteenth centuries, and the successful corruption of the leading, anglophile financier families of the U.S.A. during and beyond the course of the two general eurasian wars of this century, has enabled London to bring the entire world today under the domination of the combined British empiricist traditions in political-economic dogma and the legacy of the Versailles agreements imposed at the close of the first of those general wars.

Consequently, the past 500-odd years of modern european civilization have been characterized by a conflict between two principal, opposing impulses within that civilization: the insurgent new principles of the commonwealth institutions, and the opposing form, in which the opponents of the commonwealth, centered around the venetian oligarchical tradition, have struggled to establish and maintain control over the political and other key institutions of the new form of nation-state.

It is our failure, thus far, to free modern society from the grip of this oligarchy, which has brought this otherwise most powerful and most successful modern form of society to the present brink of doom. It is this unresolved conflict which has imparted to the past 500 years of the history of european civilization a distinct, cyclical character. Thus, the impending doom of this civilization (at least, in its present form) gives to the past 550 years the appearance of a long dynastic cycle of rise to a relative zenith of power, and then a descent into ensuing collapse.

4.8 The 1963-95 'cultural paradigm shift'

With brief exceptions, the central issue of the U.S. Declaration of Independence, War of Independence, and adoption of the 1787-89 Federal Constitution was a commitment to that tradition of the anti-oligarchical commonwealth associated with King Louis XI's France, Jean Bodin's *Six Books of the Commonwealth*, the "dirigism" of France's Richelieu,

Mazarin, and Colbert, and the conception of natural law offered by Gottfried Leibniz, in opposition to that proposed by the empiricist John Locke. The U.S. War of Independence was fought, in fact, against those policies set forth in East India Company apologist Adam Smith's 1776 *Wealth of Nations*. U.S. Treasury Secretary Alexander Hamilton's Reports to the Congress on the subjects of *Credit*, *A National Bank*, and *Manufactures* identify the *American System of political-economy*, as U.S. economic policy was understood by all U.S. patriots, including U.S. President Franklin Roosevelt (in opposition to Britain's Prime Minister Winston Churchill), from 1789 through 1963.

Then, during the interval 1964-70, a reversal of this U.S. cultural and economic tradition was set into motion. The London Tavistock Institute and its collaborators sometimes referred to this change as a "cultural-paradigm shift." This "cultural-paradigm shift" is the key to the presently ongoing spiral of collapse within the global monetary, financial, and economic systems.

The work of the World Wildlife Fund of Britain's Prince Philip and Netherlands' Prince Bernhard, was part of this effort to turn back the clock of history to feudalism, or even to earlier models of barbarism. This was known as the "rock-drug-sex counterculture." It was called by the Ford Foundation, in 1964, "The Triple Revolution." In 1967, one advocate, Zbigniew Brzezinski, called it "the technetronic age." Fascist ideologues such as the London *Times*' Lord William Rees-Mogg identify this New Age with Alvin Toffler and U.S. Speaker Newt Gingrich's "Third Wave." It is the "ecology movement" launched in the United States at the close of 1969. It is otherwise known as Cambridge University models of "systems analysis." It is known generally as "post-industrial" utopianism. It is the policy of the fascist Mont Pelerin Society of Prof. Milton Friedman and the late Friedrich von Hayek.

Once the United States and the Soviet Union had reached certain agreements in the wake of the Cuban missile crisis of 1962, it was the belief of the London-centered international oligarchy that London's establishment had the post-1945, nuclear balance-of-power game adequately under its influence. In the view of these circles in London, and their co-thinkers in the U.S.A., it was no longer necessary to maintain those rates of physical-economic growth and technological progress which would have been required were the threat of a general war still believed to be a likely prospect. It was believed that the Pugwash doctrine for a new form of British "balance of power," a geopolitical balance of mutual thermo-nuclear terror, was securely in place.

It was believed, that this had realized the strategic goals which Bertrand Russell had articulated in such public locations as his 1946 contribution to the *Bulletin of the Atomic Scientists*. It was believed in those circles, including McGeorge Bundy and Bundy-associated British agent Henry A. Kissinger, that the likelihood of an actual general war had



Masterminds of the cultural-paradigm shift toward a new Dark Age, left to right: Alvin Toffler, McGeorge Bundy, and Bertrand Russell.

been eliminated. It was believed, as Russell had projected this about 20 years earlier, that, over the longer term, the institution of the nation-state would be superseded by the establishment of actual world-government under the United Nations.

Therefore, during the months immediately preceding the assassination of President John F. Kennedy, it became the opinion of the New Age advocates, that emphasis upon science and technology was no longer needed, nor even desirable. Industrial development no longer desirable. The 1964 *Triple Revolution* report, published by the Ford Foundation's Fund for the Republic, echoed this post-industrial sentiment. As a corollary of that same opinion, it was believed that the quality of rationality in education and public life generally, needed for a modern industrial society's labor-force and family households, was no longer necessary, or even desirable.

The test-tube in which a mass-based form of irrationalist, counterculture movement was brewed, was the anti-war movement of 1965-68.

One-time U.S. National Security Adviser McGeorge Bundy is at the center of the exemplary events of the 1963-68 turn. Bundy virtually authored the U.S. military commitments in Vietnam. As soon as he had committed President Johnson to the war in Vietnam which he desired, Bundy left government, and headed up the Ford Foundation, from which

he did much of the orchestration of the U.S. anti-war movement of the 1965-68 interval, including the funding of the group which became the Weatherman terrorist organization.

The same forces which had orchestrated the 1965-68 anti-war movement, next launched the so-called "ecology movement." The seed-crystal for a mass-based "ecology movement" was assembled from among the year 1970's somewhat shattered fragments of the anti-war movement. The "post-industrial" battering-ram of the irrationalist "ecology movement" has supplied a battery of well-funded operations against the key institutions of modern society. Each and all of these operations, over the 1970-95 period, have been based upon outrightly anti-scientific hoaxes; each and all have been aimed to destroy industrial society, step by step. At the present stage, in conjunction with Prince Philip's World Wide Fund for Nature (the former World Wildlife Fund), these "ecology" operations are being deployed with the specific intent of destroying national sovereignty throughout this planet, through the establishment of ecological preserves under international supervision at the borders of nations, or in internal zones of crucial national mineral, forest, and hydrological reserves.

Through these and related kinds of qualitative changes in economic, monetary, and financial policy, the leading political institutions of nations have been corrupted into a



The environmental terrorist group Earth First! conducts a demonstration against logging in Ft. Bragg, California, 1990. The ecology movement was assembled from the fragments of the anti-war movement, and is being used as a battering-ram against industrial society.

state of virtual insanity. This can be described more precisely as a systematic decoupling of the determination of financial growth from the growth of real economy, and the related decoupling of political institutions from responsiveness to the real conditions of life of the nation and the majority of its constituent social strata.

Until 1963, the nominal value of aggregate financial holdings within the U.S.A., and most other nations, was tied to the profitability of agro-industrial enterprises and public utilities. With the compounding of the influence of "post-industrial" trends by introduction of a "floating exchange-rate" international monetary order, and by rampant measures of deregulation of financial and other markets, the value of financial paper generally became increasingly decoupled from the profitability of useful production and public-utility operations. Beginning 1970-71, and accelerating after the October-November 1979 introduction of Paul A. Volcker's Federal Reserve policies of "controlled disintegration of the economy," the correlation between growth of financial aggregates and produced goods ceased.

More recently, in the U.S.A. and western Europe, as in Russia, profitability is derived chiefly from those forms of expansion of financial aggregates which occur through contraction of the real economy.

Under these circumstances, national and local politics within the United States, as in Britain, has also been systematically decoupled from reality, as the financier interest

which virtually owns political figures and parliamentary factions has been decoupled from the profitability of the real economy.

Thus, during the interval 1964-95, european civilization in its present form has been shifted into an end-phase. The Comecon was already visibly affected by the radiation of this shift by no later than the early 1970s; now, the states which were formerly within the Comecon region, Russia notably, are gripped by the effects of symbiosis with the global system in its end-phase.

4.9 The net result of this lesson

The gradual progress under the modern, commonwealth form of constitutional nation-state republic, toward compulsory universal education, in a climate of commitment to benefits of scientific and technological progress, gave modern european civilization (until recently) the highest rates of fundamental progress in science and technology, and the greatest rates of increase of the power over nature represented by the average human being. For all the evil which the european oligarchical interests have succeeded in fostering, the fact remains, that modern european civilization has advanced the acceptable standard of life of the individual person generally far above the standard represented by any earlier culture.

When we balance the achievements of modern european civilization, against the evil accomplished by its oligarchical

component, it appears incontrovertible that the available pathway to recovery from the presently onrushing global disaster, is to revive the commonwealth aspect of this civilization, minus the oligarchical parasite.

Whatever were a better form of society for the more distant future is not presently a practical question. Whatever that distant future might be, we shall not realize it unless we survive to reach that point in time. We shall not reach that point unless we prevent that catastrophe of a prolonged, global "New Dark Age" which presently menaces us. We must proceed from the proven principles which the course of recent centuries has demonstrated beyond reasonable doubt.

We must learn from the failure of our predecessors to defeat the London-centered international oligarchy before this. The lesson of this century is that the nations which fell victim to such traps as King Edward VII's Anglo-French Entente Cordiale, committed the error of being lured into pursuit of perceived specific interests, disregarding the consequences of abandoning concern for principle in this way.

We must recognize a crucial precedent for the folly of the Triple Entente. In A.D. 1509, the League of Cambrai had defeated Venice, and was ready to deliver the crushing blow. Venice's ability to escape destruction in 1510 was its success in corrupting some of the members of the League of Cambrai against Venice's principal adversary, France. During the interval 1894-1907, Britain, led by the Prince of Wales who became Edward VII, played France, Germany, and Russia (among others) against the most vital strategic interest of each and all, by playing upon the susceptibility of each to become so obsessed with some petty policy-interest that they could be self-blinded to their most vital interest.

If there is one lesson to be learned from modern history which might be fairly described as "fundamental," it is the repeated spectacle of that unhappy fate often suffered by the nation which puts aside principles, regarding principles wrongly as "too theoretical," in the apparent practical interest of some perceived, specific, narrower policy-interest. We see, as in the case of the Triple Entente, or the dissolution of the League of Cambrai earlier, that the nation which prefers the "practical" to the "theoretical" in this way, will probably find itself, like Czar Nicholas II, *hors de combat* in the next strategic catastrophe.

The first principle to be adduced from five centuries of modern history, is that the oligarchical model as such is the enemy to be crushed; our most vital and urgent true interest now, is to revive what was good from the present wreckage of modern history.

5.0 A strategy for recovery

5.1 The general institutional basis for the recovery

From the standpoint of principle, there are two preconditions for the economic recovery of Russia. First,

it must adopt a form of national political-economy consistent with the principles underlying the U.S.A.'s "American System of political-economy." Second, it must secure a sufficiently powerful circle of friends and economic partners among nations abroad that this new choice of political-economy by Russia might benefit from a favorable global climate. Neither of these two conditions were likely to be achieved, unless the principles governing the change in political-economic institutions are stated openly, in both the national and world community, with pungency and force.

5.11 It must be stated, that the abysmal failure of the advice of Adam Smith and his present-day monetarist followers obliges Russia to adopt the principles of the only proven, non-imperialist model of economic success of the past two centuries, the dirigist models of the U.S.A.'s "American System of political-economy," as this is described by such authorities as U.S. Treasury Secretary Alexander Hamilton, Mathew Carey, Henry C. Carey, Germany's Friedrich List, and others in that tradition.

5.12 It should be qualified, that Russia, like most nations formerly members of the Comecon, is being crushed by the same, global financial maelstrom which is currently causing the collapse of an increasing number of nations, in every sector of the planet.

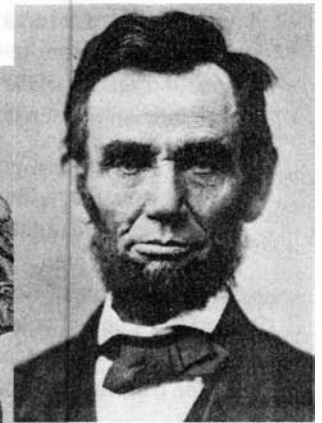
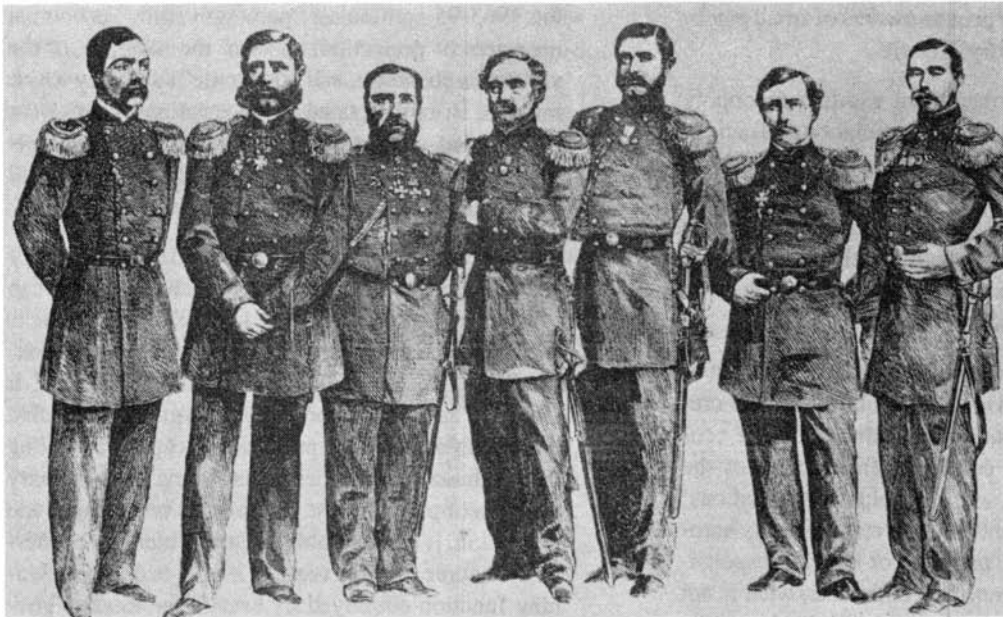
The present combination, of history's most bloated and dangerous financial bubble of speculation, and the descent into the wasteland of a "post-industrial utopia," represents an intolerable burden and life-threatening condition for virtually every family household and person in every part of Russia.

During recent years, these circumstances and trends, combined with attempts at "shock therapy," have collapsed the net physical production and consumption of Russia, and of sundry neighboring nations, apparently to not better than one-quarter the levels, per capita, per household, and per square kilometer, of 1989.

The evidence is clear: For Russia, for the former member-states of the Comecon, and also for most of the world at large, the recent, monetarist forms of economic, monetary, and financial policies of the international market-place have proven a global failure, a global social catastrophe.

5.2 The constitutional political structure of the economy

What is required is *not* that Russia become a carbon-copy of the United States during the best periods of the U.S.A.



Russian naval officers in the United States in 1863. Czar Alexander II dispatched his Navy to assist President Abraham Lincoln (inset) during the U.S. Civil War.

Rather, Russia's rational alternative to the presently ongoing economic catastrophe, is to adopt a Russian system which embodies the same proven principles of success which have been tested and proven sound in not only the experience of the United States' wiser periods, but of other nations which, for a time, also applied their own version of the same principles of national economy.

Perhaps not coincidentally, the best periods of the United States were those times when the U.S. and Russia governments were on the relatively best terms. The good relations between the U.S. and Russia governments of the 1790s reflected Russia's crucial assistance to the cause of U.S. independence: the League of Armed Neutrality. Czar Alexander II, who once again liberated the serfs of Russia, was a valuable ally of President Abraham Lincoln's U.S.A. at a time that the forces of Palmerston's Britain, Napoleon III's France, and Spain were allied in a plan of naval aggression against the United States. Why should Russia not benefit from contributions to economic science by an old friend?

The following observations should not be read as an intent to suggest a "blueprint" of reform, but rather to illustrate some relevant principles.

5.21 Under the U.S. Constitution's provisions, the basis for the form of economy known as "the American System of political-economy" originates in the so-called "general welfare clause" of the Preamble to that Constitution. This is to be recognized, for this purpose, as an affirmation of Gottfried Leibniz's principles of natural law, in opposition to that empiricist doctrine ("life, liberty, and property") of John Locke,

which the framers of the U.S. Declaration of Independence and Federal Constitution rejected in favor of Leibniz's alternative.

5.22 As can be seen from the vantage-point of Treasury Secretary Alexander Hamilton's relevant three reports to the U.S. Congress, the general basis for the "American System of political-economy" is outlined within provisions of Article I of the Federal Constitution.

5.23 These reports and those constitutional provisions should be considered together with the relevant historical evidence not only from United States, but also from relevant foreign examples, including nationalist periods in the history of France, since Louis XI, Richelieu, Mazarin, and Colbert, and later periods of revival of Colbertist traditions, through President Charles de Gaulle. This evidence includes the rise of Germany under the influence of the policies of Friedrich List; it includes the case of Meiji Restoration Japan. It includes the kindred policies of the collaborators D.I. Mendeleyev and Sergei Witte in Russia, as the eurasia-infrastructure-building policies of Witte's implicit key collaborator, France's Foreign Minister Gabriel Hanotaux.

5.24 The implicitly constitutional form of political-economy represented by the American System's successful applications in various nations, is centered around a division of the total national economy between respectively public and private sectors. The applicable physical principle is the fact, that the effective devel-

opment of the total area of a nation can not be achieved as the chaotic sum-total of the infrastructural decisions and actions of the private owners of small patches of the national territory. To wit:

(a) The Federal government exerts a monopoly over the creation, issuance, and regulation of a national currency, and regulation of both public and private banking and credit. The preferred mechanism used for distribution of newly created currency, whether specie or Federal notes, is regulated lending by a national bank which acts (inclusively) as a depository for the national issue of currency.

(b) The Federal government and governments of the state share and divide responsibility for the creation, improvement, and maintenance of basic economic, physical, and political infrastructure of the sundry Federal, state, and municipal organizations. The Federal government assumes responsibility automatically, by the U.S. principle of Federal responsibility for interstate commerce; otherwise, what is not assumed as the responsibility of the Federal government, is left to the responsibility of the governments of the states. This includes, most notably, the following economic categories: the military, police forces, justice, water management, general sanitation, general transportation, generation and distribution of required power-supplies, general communications, public education, last resort for medical services, and promotion of scientific and technological progress.

(c) In the areas of basic physical-economic infrastructure, the government has the option either of constructing and operating the element of infrastructure itself, or of delegating this function to a government-regulated, totally or partially privately owned public utility. The government must never divest itself of the powers to satisfy its accountability for the good and otherwise rational development of the whole of the territory of the nation, state, and municipality.

(d) The other areas of agriculture, mining, industry, banking, commerce, and commercialized services, constitute, in principle, the private sector of the national economy. Government is not prohibited from ownership within this sector, but should avoid this in cases in which an adequate supply of the type of production or service required by the nation is provided by private means.

5.3 The methods for supplying direction to economy

Once again, not to provide a "blueprint," but to illustrate relevant principles:

5.31 National economic growth and "free trade" are implacable adversaries. During all of modern history, until the 1963-95 continuing "paradigm shift," economic measures of protectionism were the hallmark of the victorious economy, and "free trade" the policy which imperial Britain dictated to those nations which were its intended victims. If all the world's governments accept "free trade," all of the world's economy will be plunged into a general collapse as a result.

The necessity for anti-"free trade" measures of economic protection is that no branch of industry can survive, if it does not enjoy a price for its products which exceeds the necessary cost of the production. Similarly, no national economy can prosper, if it allows to be dumped upon its shores goods which that nation can not afford to purchase, except by curtailing its purchases of some essential items. The primary function of protectionist measures of tariffs and trade regulation, is not to establish a supplementary or alternative source of tax revenues: It is an economic-planning function employed by every sane modern government.

The primary beneficiary of such economic protection is the average family household of the relevant nation. The argument on this point is virtually identical to that Henry C. Carey and others made on the issue of chattel slavery in the United States.

If another nation supplies products at a lower price than our own, and accomplishes this because of cheapness of labor and lack of paid infrastructure costs in that other nation, both nations are ruined by this exchange. The other nation is kept in backwardness and a poor level of existence of the relevant sectors of its labor-force, whereas our labor-force's quality of life is lowered to a level more nearly resembling the misery of those employed in the relevant foreign cheap-labor operations. Thus, for example, "free trade" is directly in violation of the "general welfare clause" of the Preamble to the U.S. Federal Constitution.

Thus, the traditional forms of protectionist tariff and trade policy practiced formerly by the U.S. government are legitimate, indispensable, and one of the more powerful tools of government in the domain of national economic-development planning. Without such means, government can not defend the value of the national currency effectively.

5.32 As to fostering the internal development of the national economy, there are four aspects of the national economy's public sector through which government action can have the relatively most powerful and dura-

ble stimulus to higher rates of both production and productivity within the economy as a whole: 1) large-scale improvements in basic (physical) economic infrastructure; 2) stimulation of increased rates of advanced scientific research, and 3) correlated measures of improvement in public education; and 4) government's use of its purchasing-power, investment tax-credits, and favorable terms of credit, to stimulate expansion of the development and use of the most advanced technologies of machine-tool design. These measures foster the relatively highest rates of improvement in productivity within the economy, both per capita and per square kilometer of land-area in use.

Two crucial aspects of this tactic should be identified. When credit is supplied to large-scale infrastructural projects, or to the most capital-intensive forms of production, or to scientific and technological progress as such, or to some combination of these elements, the relatively greatest beneficial impulse is imparted to the economy as a whole. In these cases, the credit supplied to its primary recipient exerts the relatively greatest multiplier effect, upstream, through purchases from vendors, and, downstream, through the impact of improved technology upon the productivity of the economy.

As a matter of contrast, the same amount of credit-stimulus issued to ordinary production of households' goods would not generate even an approximately equal benefit for the economy at large—but for the exceptional case, in which the credit relieved a critical bottleneck, as in the instance in which a significant shortage of some requirement were relieved.

- 5.33** On condition that the state outlaws the substitution of central banking for government monopoly over creation and issuance of currency, national banking puts at the disposal of the state the most powerful administrative devices for effecting a non-inflationary stimulation of real economic expansion.

The mechanism of lending of state-created currency through national-banking facilities, virtually eliminates the state's reliance upon the open market for bonds as a source of its lending-power. The state's currency-notes can be put into circulation, through lending, at rates which reflect only the consideration of combined risk and administrative costs. State credit becomes the cheapest form of credit in the market. By restricting the categories of loan of this state-credit, government can orchestrate the growth of the public sector directly, and also structure the investment opportunities afforded to the private sector of the economy. By restricting the issuance of this credit to the

methods of tranches used customarily for construction loans, and limiting its issuance chiefly to categories of physical goods and advances of science and technology, state credit tends to have not only a non-inflationary character, but even a deflationary potential: To the degree that significant increases in productivity are effected to more advanced technologies introduced, the cost of goods is reduced in that degree.

5.4 Special role of large infrastructural projects

The three most critical bottlenecks in physical economy are cubic meters of usable water per hour, kilowatts of power per hour, and ton-kilometers per hour in general transport of goods, each and all per capita, per household, and per square kilometer of relevant land-area. These bottlenecks have an obvious bearing upon the variability of potential relative population-density. That is to say, technology being otherwise equal, the effective productivity which can be developed in one area, as compared to another of comparable size and general quality, varies with the degree to which those three infrastructural bottlenecks are overcome.

- 5.41** For this reason, we must speak of "development corridors." A typical development corridor is defined by either a railway line, or a functioning inland waterway, or both, identifiable as the "spine" of that corridor. The development of industry and agriculture, and of railway lines paralleling the river, along the Rhine, is a model of reference for this. The extensive application of the principle of such a "development corridor" dates from the development of western European inland waterways launched by Charlemagne.

- 5.42** Typically, today, the width of that corridor may extend to approximately 50 kilometers on either side of that "spine." Associated with that "spinal column," or central right-of-way of the corridor are pipelines, power-transmission lines, and parallel trunk highway segments. Along the length of the spine, there are nodal foci of development; extending like ribs from the spine, are the feeder links into the flanking tissue of the corridor on either side of the spine.

- 5.43** The choice of a network of modern such "development corridors" involves two crucial factors of Russia's economic development as a whole. First, adequate development of Russia's economy across its vast stretches of relatively low population-density, would not be possible without both large-scale development of Russia's vastly underutilized hydrological potential, and the development of an efficient set of trans- Eurasian railway-spined corridors. Second, without the development of the inland waterways and rail nets from Berlin through Poland, into Russia and Ukraine, there can not be an economically efficient

commerce between western Europe and Eurasia generally; without that, the development of Russia's economy would be relatively crippled.

Exemplary is the region of Central Asia associated with the presently spoiled Caspian Sea and the ruined Aral Sea. The water levels of these seas, and the levels of water-tables in adjoining areas must be raised. The use of no more than a significant fraction of the vast amounts of flow presently dumped into the Arctic Ocean would serve to flush both of these seas, and would also feed a broader network of inland (barge) waterways and other economic and household uses.

The crucial, more general problem addressed by Eurasia "land-bridge" and other developmental corridors is that low population-density tends to increase the cost of production significantly. The factors of cost are typified by the increase of the amount of inventory which must be supplied to the transport "pipeline," relative to the level of production-output involved, and by increasing the cost per ton attributable to movement of freight.

There are several ways this problem may be addressed successfully; these solutions are all to be found in principle within the notion of the development corridor:

(a) The development corridor provides the means for establishing designed, high-density complexes of production within the most efficient modes of transport and supplies of water and power (and, also, communications). By this method, the corridor is a means by which an efficient form of high-density area is developed within a larger low population-density area.

(b) The "spine" provides means for gaining the benefits of economy of scale in respect to trunk-line transportation, communications, and production and distribution of power and water supplies.

(c) The development of high-speed magnetic levitation, and the serial/mass production of the new, Jülich type of high-temperature reactors (HTR) in the 100-200 megawatt range, transforms the vast, underdeveloped spaces of Russia into a network of development corridors of rich potential. Virtually no other nation in the world could benefit as much from the advantages of maglev speed as the area of the former Soviet Union. Given the costs of transport of fossil fuels for production of power, and the greatly superior energy-flux densities of the HTR over fossil-fuel plants, the gains in efficiency gained through the general use of power-complexes built up modularly of

clusters of HTRs has a great potential inside the kinds of development corridors required for the efficient development of the Russia economy in depth.

The function of corridors defined in these and related terms, is to transform what might appear to be the vast disadvantages of Russia's space, into an advantage.

5.5 The essential economic function of the space program

The common fault in the thinking of self-styled "practical men" is indicated by the fact that nearly all species of beasts, excepting perhaps a relative handful of species, such as the foolish pandas, are far more "practical," and much more consistently so than even the most "practical" among human beings. The most practical man on Earth is the serf-like peasant working in traditional agriculture, sometimes almost in beast-like ways; if he has his way, his condition of life will never be improved significantly, even over thousands of years to come. A beast, unlike the Eratosthenes from the ancient Academy at Athens, would never depart from being "practical," to suspect that the Earth was a sphere-like object, to say nothing of measuring the Earth's diameter to within about 50 miles error at the poles. Similarly, people who have yet to learn the ABCs of the science of physical economy, think that an extensive government-sponsored space program is either simply a military, or political-prestige program, but otherwise a waste of money.

On the condition that a competent economic-recovery program is set into motion in Russia, the continuation and expansion of Russia's space program is one of the most useful contributions to the successful growth of Russia's net output per capita, per household, and per square kilometer. It is relevant to examine here summarily the proposition, that Karl Marx, like the Physiocrats, Adam Smith, and David Ricardo before him, never understood the source of physical-economic profit generated in a modern economy. The benefits of a properly directed space program are of this nature; we find a comparable case in certain vast economic benefits which the United States has gained repeatedly from large-scale investments in the production of the form of waste known as high-technology military expenditures.

5.51 The economic phenomenon

It used to be a marginal advantage of the United States, that we emerged from the costliest of our major wars, including the Civil War, far more prosperous than we had entered it. The U.S. trade unionist and others, used to be bemused by the curious fact, that large-scale, crash-program war-expenditures made the United States more prosperous, whereas periods

of peaceful disarmament were usually associated with recession or even depressions!

The solution for this apparent paradox ought to be considered elementary: The only source of actual physical-economic profit is that marginal increase in the productive powers of labor which is attributable entirely to the generation and assimilation of scientific and technological progress. This is what the pro-feudalist Physiocrats, of the Fronde tradition, refused to accept, as did all of the British empiricists such as Smith and Ricardo, and as Marx, in his *Capital*, explicitly pushed aside this implication of technological progress.

The same kind of benefit was realized by the United States economy from President Kennedy's "crash-program" commitment to a manned Moon landing. Over ten cents was returned to the U.S. economy as a result of the "spin-off" benefits generated by each penny of expenditure for that 1960s aerospace program.

5.52 How the benefit is transmitted

The transmission of scientific discovery to become increased productivity per capita and per square kilometer, is mediated typically through a section of industry broadly identified as the "machine-tool sector." Typically, a perfected laboratory apparatus, constructed for a proof-of-principle demonstration, serves as the model for a new machine-tool principle. That machine-principle, incorporated, in turn, in machine-tool designs, becomes the medium for effecting increases in the productive powers of labor. Military investments in advantages of technological attrition have thus the same type of indirect but substantial benefits to the economy as space programs. Military and space production delivers this ("spin-off") benefit through the quality of stimulation such production provides to the machine-tool sector. It is the new machine-tool designs so stimulated, which are the general source of the increase of productivity.

5.53 How space programs must be defined

From this vantage-point of the economist, space programs have a twofold peculiarity. From the standpoints of both science and engineering, space programs are anomalous in all respects. The putting of objects and persons into space exploration, is already anomalous; this requires a virtually endless series of successive confrontations with circumstances which man has never addressed before. The chief purpose of space exploration, is the exploration of physical anomalies in our universe, touching areas of physics

which can not presently be addressed in any other mode.

The relevant policy considerations are shown most readily from the vantage-point provided implicitly by B. Riemann's treatment of the fallacies usually associated with formal mathematics, in his 1854 habilitation dissertation. The qualitative aspect of the progress of mathematical physics is located in certain experiments which have a unique significance among experiments in general. Modern english-speaking usage among physical scientists seems to prefer the term "crucial" over "unique."

To put the relevant crucial point as succinctly as seems feasible, let us briefly restate Riemann's thesis in my own preferred terms. This leads directly to identifying the unique importance of space programs for stimulating growth within modern economies.

It were perhaps more or less inevitable, that in its baby-steps, science would blunder into the error of attempting to reduce physical science to the terms of a naive sort of formal geometry, one axiomatically of zero-curvature. This is the geometry, not of vision, but of the naive variety of visual imagination, in which space and time are extended indefinitely in perfect continuity: forward, backward, side-to-side, up-and-down. The physical objects and events we attribute to our senses, or also to our imagination, are simply located within a zero-curvature space-time so defined. We then perpetrate the naive blunder of assuming that processes occurring in nature can be described adequately in terms of the mathematical mapping of objects within the zero-curvature space-time of the visual imagination. Thus, naive error wrongly attributes to the schemas of Galileo, Fludd, Newton, et al., the quality of *physical space-time*.

If we examine this matter from the formalist standpoint of analysis, the following picture emerges from study of unique experiments. We discover, that in each of these instances, physics presents us with propositions which can not be reconciled with the set of axioms and postulates of a naive (e.g., Cartesian) mathematics of space-time. In formalist terms, we can acknowledge the anomalous evidence with which nature has confronted us, only by a new *hypothesis*, in Plato's or Riemann's sense of the term "hypothesis": a new set of axioms and postulates, replacing that of naive mathematical physics.

Then, we no longer have a simple, zero-curvature space-time. The combination of all of the changes in axioms and postulates imposed by a reconciled succession of unique experiments, results in attribut-

ing to our thus modified notions of physical-space-time some definite, non-zero value of curvature. In that transformation, the naive, neo-aristotelean, mechanistic form of mathematical notions of causality, such as those introduced by Sarpi-Galileo, must be replaced by a notion of the function of universal Reason, in the sense this notion was adopted by Kepler.

Thus, is fundamental progress in science ordered. So, consequently, is technological progress supplied a sense of ordering-principle.

For reasons recognized by Riemann, the kinds of experiments and kindred observations which address this matter of curvature more directly, are located at those extremes which lie beyond the direct power of our sensory apparatus, in the remotenesses of astrophysics and microphysics. This should not astonish us, since the first steps toward a mathematical physics, as Plato's Academy illustrates the point, were accomplished through inferential studies of astronomy. The study of the characteristic distinctions of living from non-living processes, in these terms of reference, completely maps the frontiers of research in which the richest production of original, valid, fundamental discoveries will occur.

How life presents itself to us in the remotest smallness of microphysics, and man acting upon the astrophysical vastness, are the expression of that exploration of scientific frontiers.

Now, then, briefly: The frontiers of scientific progress are expressed by man, including his most intimate microphysical aspects, acting upon the most anomalous phenomena to be found in the vastness of astrophysics. Cosmic rays, the spectroscopy of the perimetry of so-called "black holes," the shedding of rotation by fast-rotating binary stars, the full range of spectroscopy of interstellar space, and so on and so on. Here man will uncover the unique anomalies which lead to an increase of the power of mankind to exist on Earth. Here, the clues to the greatest benefits to the economy of Earth will be uncovered. These clues will be explored successfully, only by aid of successful, increasing large-scale space programs.

5.6 The analog of war mobilization

The paradoxical advantage and risk of any competent effort to reorganize an economy as shattered as the Russia economy today, is that this can be accomplished in but one way, by methods adapted from the world's rather rich modern experience with war-economy.

The point is that the initial phase of a process of economic

recovery can occur in no way but through government initiatives of the form of mobilizing semi-idle and idle productive and related resources, to bring together by command the essential elements of materials, machinery, labor, and so forth, to resume production on a scale approximating some earlier point in time, prior to that collapse now being reversed.

After that initial phase, the mobilized state is maintained through shifting toward reliance upon a system of purchase orders and credit for weekly payroll, materials purchases, and so on. A reasonably good approach to the mobilization during the initial phase of economic recovery would resemble in a significant degree the initial, 1940-42 phases of pre-war and wartime mobilization of the U.S. economy for combined military and civilian logistics of wartime conditions.

5.61 Some useful models for comparison

During recent decades, I have recommended study of the mobilization of the economy of France, first by Lazare Carnot in his role as "Author of Victory," and also through the combined influence of Carnot and the Monge-Legendre Ecole Polytechnique during the interval 1794-1814. These methods were assimilated, through the assistance of associates of Carnot and Monge, by the post-1814 U.S. Military Academy at West Point under Commandant Sylvanus Thayer. Over time, the lessons of the Germany and the joint Prussia-Russia mobilization of 1812-13, under the direction of Friedrich Schiller's friends, for the Liberation War against Napoleon Bonaparte's oppression, were assimilated to kindred effect. The Carnot/Ecole model is the classical case, since it was the first instance of a military mobilization based upon a science-technology-driver pivot.

Other models of relevance include the U.S. mobilizations for war, 1914-18 and 1940-44, and military and quasi-military scientific mobilizations such as the Manhattan Project and the Apollo program of the 1960s. Also of relevance are the pre-Hitler Germany recovery program developed for the pre-Hitler Schleicher government, the one which the Anglo-Americans toppled, in order to bring Adolf Hitler to power, and both the "heavy franc" reform, and the dirigist program of industrial and *force de frappe* development which President Charles de Gaulle launched for the Fifth Republic.

5.62 Does mobilization augur dictatorship?

The social characteristics of these exemplary past mobilizations, are of special significance because of the understandable fears which will arise, that an economic mobilization of this sort augurs the possible, even probable emergence of a new dictatorship. This

report concludes with an appended comment upon the relevant historical view of this issue.

6.0 The 'national party' in modern european history

The distinctive, collaborative roles of D.I. Mendelejev and Sergei Witte in the development of railways and industry in pre-1905 Russia typify a phenomenon characteristic of the appearance of the modern form of nation-state during the recent period of slightly more than six centuries, since the collapse of the great Lombard debt-bubble during the middle of the fourteenth century. This phenomenon I term the "national party," both as it sometimes appeared on the surface of history, as a formal political movement, or operated as an organic phenomenon with society, as the collaboration between Mendelejev and Witte illustrates the latter variant.

It was customary, in pre-1812 Europe, to speak of Germany as a nation of poets and thinkers. Yet, from the beginning, it was always the poets and thinkers of every nation who actually fostered the modern commonwealth form of nation-state. But for a rare few exceptions, such as France's Louis XI, it was not the kings and oligarchs who maintained the continuity of literate forms of language and other features of national european cultures, but always the poets and thinkers.

Dante Alighieri is one such pre-shaper of the modern commonwealth, and Petrarca after him. The Golden Renaissance and Louis XI's commonwealth of France were made possible by the classical humanist teaching-order, the Brotherhood of the Common Life. The Council of Florence was organized by leaders such as Nicolaus of Cusa and the later Pius II (Piccolomini). The spread of the new commonwealth institutions was fostered by such associates of the Oratorian order as Erasmus of Rotterdam and Raffaello Sanzio. The resistance against the venetian oligarchical takeover of England was led by figures such as the playwright Christopher Marlowe and the composer John Bull.

In France, the erasmian associate of the Oratorians, Francois Rabelais, churchmen such as Richelieu and Mazarin, plebeians such as Jean-Baptiste Colbert, and anti-empiricist scientists such as Desargues, Fermat, and Pascal typify the resistance to oligarchism.

In modern Germany, it is the cases of Gottfried Leibniz, J.S. Bach, Lessing, Moses Mendelssohn, and the circles of Schiller, his sometime collaborators (such as Goethe), his friends, such as Wilhelm von Humboldt and von Wolzogen, and his followers, such as Beethoven and Schubert, who exemplify this. Later, there is the great Gauss, Lejeune Dirichlet, Wilhelm Weber, and Riemann, and later, the last leading bastion of resistance against the dog-packs of the oligarchical philosophy of positivism, Max Planck.

The history of the nation is not the kings, princes, and aristocrats, for whom the nation is but a feudal estate, or the financier nobility, who loot it with usury. The renewal of the

continuity of the national culture is the peculiar function of that portion of the intelligentsia which is committed to the principle that knowledge can be rendered intelligible through the agency of the creative faculty of the individual human intellect. It is that portion of the intelligentsia which sees man not as a beast, a wretch, but a creative intellect made in the image of God the Creator. The portion of the intelligentsia constitutes what I designate as the social basis for "the national party" of a nation.

That portion of the intelligentsia in each language is the bearer of the continuity of the nation. As this portion of the intelligentsia responds to that impulse within itself, it constitutes the organic leadership of a "national party." It is such an intelligentsia which writes such documents as the Preamble to the U.S. Federal Constitution; it is the slaveholders, the dictators, and actual or would-be feudal aristocrats, who would write the opposing Preamble to the empiricist Constitution of the Confederate States of America.

The relationship of the circles of Mendelejev, Witte, and later V.I. Vernadsky to the actual national party in post-Napoleon III France of 1871-98, as the Pasteur circles exemplify this tradition of the Carnot-Monge-Legendre Ecole Polytechnique of 1794-1814, is an exemplary subject for study. We who in fact are organically representatives of the "national party" factions in our respective nations should come to understand more clearly and profoundly, this historic basis for our natural inclination to collaborate in the mutual defense of our nations against the depredations of the adversary, oligarchical party.

The question whether an attempted economic recovery initiated through an emergency mobilization will lead to true liberty, or to dictatorship is a question of the social composition of the agency which directs that mobilization. If the directing agency thinks like a part, or a lackey of the oligarchical party, that agency will tend to use the assembly of its forces into a commanding position to establish a dictatorship, or something akin to it. The national party in command, will respond differently. The key to the distinction between the two qualities of leadership, is the distinction between those who see ordinary men and women as cattle to obey orders, and those who see the creative intellect of individual men and women as the great moral force for good which must be awakened, and set into motion.

Thus, for that reason, and in that sense, I do not trust men and women in power who are too much the busy-busy-busy practical politicians. One must prefer men and women who have learned the importance of proceeding from principle to action, rather than viewing "principle" as rhetoric produced to justify what one has done out of purely practical considerations. I place some value on political parties, but I do not like them too much. I prefer political movements, which are self-governed by passion for the practical realization of the commonwealth principle of the modern, scientifically progressive form of nation-state.